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EXAMINER
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KIM, JUNG W

ART UNIT	PAPER NUMBER
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2132

DATE MAILED: 05/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/003,767

Applicant(s)

LUCOVSKY ET AL.

Examiner

Jung W. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-29 and 31-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 and 31-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This Office action is in response to the amendment filed on December 9, 2005.
2. Claims 1-29 and 31-40 are pending.
3. Claims 1, 2, 5, 6, 9, 31, 34 and 36-38 are amended.
4. Claim 40 is new.
5. Claim 30 is canceled.

#### ***Response to Amendment***

6. The objection to the Specification is withdrawn as the amendment overcomes the objection.

#### ***Response to Arguments***

7. Applicant's arguments, with respect to the prior art rejections have been fully considered but are not persuasive. Applicant argues that Wong does not disclose the new limitation "wherein the plurality of role templates are contained within one or more role map documents that are each specific to a particular service," specifically, "Wong fails, however, to teach or even suggest any service for which a role tree or RBXAC\_xml document may be specific. In fact, the single example presented in Wong teaches that the RBXAC\_xml and role tree are instead specific to an entire University, rather than to a specific service as claimed in combination with the other recited claim elements" (Remarks, pg. 15). Examiner respectfully disagrees. In determining the

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scope of the claims, the limitations of the claims were given its broadest reasonable interpretation (MPEP 2111). Applicant's distinction that the "RBXAC\_xml and role tree are instead specific to an entire University, rather than to a particular service" is not sufficiently defined in the arguments, nor more importantly, in the Specification or the claims. There is no special definition of term "service" in the Specification, only examples including a "calendar service." As such, the plain meaning of the word is given to determine the scope of the claim. "Services" as known in the art is an expansive term that includes the definition, inter alia, a facility that provides the use of something (see Webster's dictionary, dictionary.com or equivalent), which is consistent with the "calendar service" as disclosed in the Specification. Since a "university" in the general sense provides, inter alia, a use of the collective knowledge of the school body, a "University" fits under the umbrella of a service. Hence, the new limitation of the independent claims is also taught by prior art of record.

***Claim Rejections - 35 USC § 102***

8. Claims 1-3, 5-9, 13-18, 24-29, 31-36 and 38-40 are rejected under 35 U.S.C. 102(a) as being anticipated by Wong et al. "A Role-Based Access Control Model for XML Repositories" (hereinafter Wong).
9. As per claim 1, Wong discloses in a computer network that includes different types of data structures of one or more specific entities, a method for authorizing a

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requesting entity to operate upon data structures in a standard manner, the method comprising:

- a. an act of maintaining a plurality of role templates that define basic access permissions with respect to one or more command methods, wherein at least some of the role templates define the basic access permissions in a manner that is independent of the type of data structure being operated upon, and wherein the plurality of role templates are contained within one or more role map documents that are each specific to a particular service (pg. 144, "role," <role\_tree>);
- b. an act of maintaining a plurality of role definitions that define access permissions for requesting entities by using one or more of the role templates (pg. 144, "user", rolepointer points to a "role");
- c. an act of receiving a request from the requesting entity to perform at least one of the command methods, the request identifying the requesting entity (pg. 142, expression (23), "normal request");
- d. an act of identifying a role definition corresponding to the requesting entity (pg. 142, expressions (24) and (25)); and
- e. an act of determining access permissions for the requesting entity with respect to the command method using the role definition corresponding to the requesting entity. (pg. 142, ACL performs step (d))

10. As per claim 2, Wong further discloses wherein the act of maintaining a plurality of role definitions that define access permissions for specific entities comprises:

f. an act of the role definition corresponding to the requesting entity using at least one access permission that is specific to the requesting entity, wherein the at least one access permission for the requesting entity is defined by the one or more role templates that are used by the corresponding role definition as well as the access permission that is specific to the requesting entity. (pg. 142, login request, expression (22) and normal request, expression (23); pg. 144, "role" and "user")

11. As per claim 3, Wong further discloses wherein the request includes an identification of credentials used to authenticate the requesting entity, wherein the role definition corresponding to the requesting entity is identified using the credential identification, wherein different role definitions may apply depending on the credentials. (pg. 142, login request, expression (22); pg. 144, "user")

12. As per claim 5, Wong further discloses wherein the act of maintaining a plurality of role templates that define basic access permissions comprises the following: an act of maintaining the at least one role map documents that contains all of the role templates for a particular service. (pg. 144, <role\_tree>)

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13. As per claim 6, Wong further discloses wherein the act of maintaining a role map document that contains all of the role templates for a particular service comprises the following: an act of defining one or more scopes that describe views on a data structure, the one or more scopes being defined independent of the plurality of role templates; and an act of defining a role template by associating a method type with one of the one or more scopes. (pg. 144, "acc\_function" and "acc\_operation"; each operation set is associated with a XML node)

14. As per claim 7, Wong further discloses wherein the act of maintaining a role map document that contains all of the role templates for a particular service comprises the following: an act of maintaining a role map document as a hierarchical data structure. (role\_tree is a hierarchical data structure)

15. As per claim 8, Wong further discloses wherein the act of maintaining a role map document that contains all of the role templates for a particular service comprises the following: an act of maintaining a role map document as an XML document. (role\_tree is an XML document)

16. As per claim 9, Wong further discloses wherein the act of maintaining a plurality of role definitions that define access permissions for specific entities by using one or more of the role templates comprises the following: an act of maintaining one or more role list documents that contains all of the role definitions for requesting entities that

may attempt to access data structures belonging to an identity. (pg. 144, < RBXAC\_xml >)

17. As per claim 13, Wong further discloses wherein the act of receiving a request from the requesting entity to perform at least one of the command methods comprises the following: an act of receiving a request from the requesting entity to insert a portion into the data structure. (pg. 142, normal request, "op"; pg. 144, "acc\_operation")

18. As per claim 14, Wong further discloses wherein the act of receiving a request from the requesting entity to perform at least one of the command methods comprises the following: an act of receiving a request from the requesting entity to delete a portion from the data structure. (pg. 142, normal request, "op"; pg. 144, "acc\_operation")

19. As per claim 15, Wong further discloses wherein the act of receiving a request from the requesting entity to perform at least one of the command methods comprises the following: an act of receiving a request from the requesting entity to update a portion of the data structure. (pg. 142, normal request, "op"; pg. 144, "acc\_operation")

20. As per claim 16, Wong further discloses wherein the act of receiving a request from the requesting entity to perform at least one of the command methods comprises the following: an act of receiving a request from the requesting entity to replace a portion of the data structure. (pg. 142, normal request, "op"; pg. 144, "acc\_operation")



21. As per claim 17, Wong further discloses wherein the act of receiving a request from the requesting entity to perform at least one of the command methods comprises the following: an act of receiving a request from the requesting entity to query regarding a portion of the data structure. (pg. 142, normal request, "op"; pg. 144, "acc\_operation")

22. As per claim 18, Wong further discloses wherein the one or more command methods comprise a set including insert, delete, query, update, and replace. (pg. 142, normal request, "op"; pg. 144, "acc\_operation")

23. As per claim 24, Wong further discloses wherein the data structure represents role list information. (pg. 141, section 7, the XML database stores both the ACL and the XML files; the access control file is stored in XML format)

24. As per claim 25, Wong further discloses wherein the data structure represents system information. (pg. 141, section 7, the XML database stores both the ACL and the XML files; the access control file is stored in XML format)

25. As per claim 26, Wong further discloses wherein the act of identifying a role definition corresponding to the requesting entity comprises: an act of identifying the role definition by searching a database. (pg. 142, expression (25))

26. As per claim 27, Wong further discloses wherein the act of identifying a role definition corresponding to the requesting entity comprises: an act of identifying the role definition based on authorized role information provided within the request. (pg. 142, login request, expression (22) and normal request, expression (23))

27. As per claim 28, Wong further discloses wherein the authorized role information includes an identification of a role template. (pg. 142 and 144, normal request includes a user\_id, which identifies a user, which includes at least one rolepointer, which identifies at least one role)

28. As per claim 29, Wong further discloses wherein the authorized role information further includes an identification of at least one refined, local scope for modifying the role template. (pgs. 142 and 144, normal request includes a user\_id, which identifies a user, which includes at least one rolepointer, which identifies at least one role, wherein each role includes an acc\_function, which includes an XMLPointer; since each user id is associated with more than one role and/or each role has more than one XML node, each user id is associated with more than one scope).

29. As per claim 31, Wong discloses in a computer network that includes different types of data structures, a method for authorizing a requesting entity to operate upon data structures of one or more specific entities in a standard manner, the method comprising:

g. an act of maintaining a number of role templates within one or more role map documents that are specific to a particular service, the role templates defining basic access permissions with respect to a number of command methods, wherein at least some of the role templates define the basic access permissions in a manner that is independent of the type of data structure being operated upon (pg. 144, "role," "<role\_tree>"); and

h. a step for authorizing a requesting entity using the role templates in a manner that is independent of the type of data structure being accessed. (pg. 142, normal request)

30. As per claim 32, Wong further discloses wherein the step for authorizing a requesting entity using the role templates comprises the following:

i. an act of maintaining a plurality of role definitions that define access permissions for receiving entities by using one or more of the role templates (pg. 144, "user");

j. an act of receiving a request from the requesting entity to perform at least one of the command methods, the request identifying the requesting entity (pg. 142, normal request);

k. an act of identifying a role definition corresponding to the requesting entity (pg. 142, expressions (24) and (25)); and

l. an act of determining access permissions for the requesting entity with respect to the command method using the role definition corresponding to the requesting entity (pg. 142, ACL performs step (d)).

31. As per claim 33, Wong further discloses wherein the act and step are performed by computer-executable instructions embodied within a physical computer-readable medium. (pgs. 141-142, section 7)

32. As per claim 34, Wong discloses computer program product for use in a computer network that includes different types of data structures of one or more specific entities, the computer program product for implementing a method for authorizing a requesting entity to operate upon data structures in a standard manner, the computer program product comprising one or more physical computer-readable media have stored thereon the following:

m. computer-executable instructions for maintaining a plurality of role templates that define basic access permissions with respect to one or more command methods, wherein at least some of the role templates define the basic access permissions in a manner that is independent of the type of data structure being operated upon, and wherein the plurality of role templates are contained within one or more role map documents that are specific to a particular service (pg. 144, "role," "<role\_tree>");

- n. computer-executable instructions for maintaining a plurality of role definitions that define access permissions for receiving entities by using one or more of the role templates (pg. 144, "user", rolepointer points to a "role");
- o. computer-executable instructions for detecting the receipt of a request from the requesting entity to perform at least one of the command methods, the request identifying the requesting entity (pg. 142, expression (23), "normal request");
- p. computer-executable instructions for identifying a role definition corresponding to the requesting entity (pg. 142, expressions (24) and (25)); and
- q. computer-executable instructions for determining access permissions for the requesting entity with respect to the command method using the role definition corresponding to the requesting entity (pg. 142, ACL performs step (d)).

33. As per claim 35, Wong further discloses wherein the one or more physical computer-readable media are storage media. (pgs. 141-142, section 7)

34. As per claim 36, Wong discloses in a computer network that includes different services, applications, and an authorization station, the applications submitting requests to perform operations on different data structures managed by the different services, a system for isolating the authorization process from the services so that the services need not independently authorize each request they receive from the number of applications, the system comprising:

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- r. a plurality of services, each service configured to facilitate operations on one or more types of data structures (pg. 138, section 1, "XML are usually stored in multiple sources or repositories");
- s. an authorization station configured to receive requests from a number of applications to operate upon data structures managed by any of the number of services (pg. 142, 2<sup>nd</sup> essential component, ACL), the authorization station configured to perform the following:
  - i. receive a request from a requesting entity to perform a target operation upon a target data structure managed by a target service (pg. 142, login request and normal request, which identifies an operation and target);
  - ii. access a role template that defines basic authorizations with respect to one or more operations, including at least the target operation, wherein the role template defines the basic authorizations in a manner that is independent of the target data structure desired to be operated upon, and wherein the role template is contained within a role map document that is specific to one of the plurality of services (pg. 142, expression (24) and (25); pg. 144, "role," "<role\_tree>");
  - iii. determine that the corresponding requesting entity is authorized to perform the target operation on the target data structure (pg. 142, ACL performs step (d)); and

- iv. communicate to the target service that the requesting entity is authorized to perform the target operation on the target data structure.

(pg. 142, ACL performs step (d))

35. As per claim 38, Wong further discloses wherein the set of identifying a role definition corresponding to the requesting entity comprises the following:

- t. an act of referencing a role template (pg. 144, "user"); and
- u. an act of maintaining one or more refined scopes for refining a scope referenced in the role template, wherein the one or more refined scopes are independent of the role template and refinement occurs at a user level, and wherein the scope referenced in the role template indicates what portions of a data structure are visible to a role definition for a particular command method.  
(144, "user", which includes at least one rolepointer, which identifies at least one role, wherein each role includes an acc\_function, which includes an XMLPointer; since each user id is associated with more than one role and/or each role has more than one XML node, each user id is associated with more than one scope; moreover, the XMLPointer points to an XML node object)

36. As per claim 39, Wong further discloses wherein the act of determining access permissions for the requesting entity with respect to the command method using the role definition corresponding to the requesting comprises the following:

v. an act of determining access permissions below the data structure level.

(pg. 144, "acc\_function" includes an XMLPointer)

37. As per claim 40, Wong further discloses wherein each of the one or more role list documents are specific to a particular requesting entity. (pg. 144, "<user user\_id='Alice' passwd='123'></user>")

### ***Claim Rejections - 35 USC § 103***

38. Claims 4, 10-12 and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong.

39. As per claim 4, the rejection of claim 1 under 35 USC 102(a) as being anticipated by Wong is incorporated herein. (supra) Wong does not explicitly disclose the request identifies the requesting entity by identifying a user as well as a corresponding application that is making the request, wherein different role definitions may apply depending on both the identification of the user as well as the corresponding application. However, structured usernames (such as username@domain) are notoriously well-known identifications when making a request, wherein access is dependent on a structured username and a password. For example an ISP to authenticate a user on a RADIUS server submits a structured username. Examiner takes Official Notice of this teaching. Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made for the request to identify the



requesting entity by identifying a user as well as a corresponding application that is making the request, wherein different role definitions may apply depending on both the identification of the user as well as the corresponding application. One would be motivated to do so since RADIUS authentication facilitates centralized authentication of users from a plurality of applications, which enables scalability. The aforementioned covers the limitations of claim 4.

40. As per claim 10, the rejection of claim 9 under 35 USC 102(a) as being anticipated by Wong is incorporated herein. (supra) In addition, Wong further discloses wherein the act of maintaining a role list document comprises the following: an act of defining a role definition by referencing a role template included in a role map document. (pg. 144, <RBXAC\_xml>, <role\_tree>) In the example, the elements are all defined in one configuration file such that the role map is not distinct from the role list, which is contrary to the limitation of claim 10, wherein the role map is distinct from the role list. However, this feature is an obvious enhancement to an XML document. It is notoriously well known to import entities into an XML document to enable a physical separation analogous to a logical separation. Examiner takes Official Notice of this teaching. Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made for the role map and role list to be separate XML documents to facilitate better configuration design by establishing physical separation of distinct entities as known to one of ordinary skill in the art. The aforementioned cover the limitations of claim 10.

41. As per claim 11, the rejection of claim 10 under 35 USC 103(a) as being unpatentable over Wong is incorporated herein. (supra) In addition, Wong further discloses wherein the act of maintaining a role list document comprises the following: an act of maintaining a role list document as a hierarchical data structure. (<RBXAC\_xml > is a hierarchical data structure)

As per claim 12, the rejection of claim 10 under 35 USC 103(a) as being unpatentable over Wong is incorporated herein. (supra) In addition, Wong further discloses wherein the act of maintaining a role list document comprises the following: an act of maintaining a role list document as an XML document. (RBXAC\_xml is an XML document)

42. As per claims 19-23, the rejection of claim 1 under 35 U.S.C. 102(a) as being anticipated by Wong is incorporated herein. (supra) Wong discloses the data structure represents general information in a computer system (pg. 1, Introduction; pg. 141, section 7), but Wong does not expressly disclose the data structure represents the following: in-box information, calendar information, document information, notification information or content information. However, it is notoriously well known for these types of information to be placed under access restriction: in-box information is specific to the receiver of the in-box; calendar information lists the personal obligations scheduled for a given date; document information contains a litany of personal documents; notification information is private to the notifies; and content information relates to all of the above.

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made for the data structure to represent any one of in-box information, calendar information, document information, notification information or content information, since all of these information require access restriction to maintain the privacy of the information as known to one of ordinary skill in the art. The aforementioned cover the limitations of claims 19-23.

43. Claim 37 is rejected under 35 USC 103(a) as being unpatentable over Wong in view of Stallings Cryptography and Network Security Chapter 11 (hereinafter Stallings).

44. As per claim 37, the rejection of claim 1 under 35 USC 102(a) as being anticipated by Wong is incorporated herein. (supra) Wong does not disclose the act of maintaining a plurality of role definitions that define access permissions for requesting entities by using one or more of the role templates comprises an act of maintaining a plurality of role definitions for the requesting entity, wherein at least one of the plurality of role definitions correspond to a plurality of authentication methods. Stallings discloses an authentication protocol, wherein a requesting user is authenticated by a central server to grant access into a particular server, wherein the particular server is one of a plurality of servers having their own authentication method (pgs. 329-335, "The Version 4 Authentication Dialogue"). In the user request to the central server, the user provides his ID as well as the ID of a particular server to gain authentication to the particular server (pg. 331, Table 11.2, Message (1)). This type of authentication

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protocol consolidates a plurality of authentication methods into an access point, wherein a user has access rights to at least one of the plurality of servers. Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made for the act of maintaining a plurality of role definitions that define access permissions for requesting entities by a using one or more of the role templates to comprise an act of maintaining a plurality of role definitions for the requesting entity, wherein at least one of the plurality of role definitions correspond to a plurality of authentication methods. One would be motivated to do so to gain the benefits of a centralized authentication service, such as scalability and security. (Stallings, pg. 325, 4 bullets) The aforementioned cover the limitations of claim 37.

### ***Conclusion***

45. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

***Communications Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jung W. Kim whose telephone number is 571-272-3804. The examiner can normally be reached on M-F 9:00-5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



May 17, 2006

Jung W Kim  
Examiner  
Art Unit 2132



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